

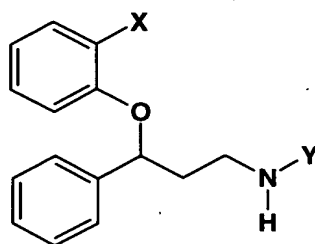
Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the present application.

Listing of Claims

1. (currently amended) A method of treating stuttering or another communication disorder, comprising administering to a patient in need of such treatment an effective amount of a norepinephrine reuptake inhibitor selected from the group consisting of:

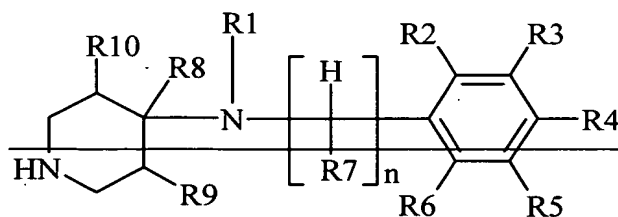
atomoxetine or a pharmaceutically acceptable salt thereof; and
~~racemic reboxetine or a pharmaceutically acceptable salt thereof;~~
~~(S,S)-reboxetine or a pharmaceutically acceptable salt thereof;~~
a compound of formula (I):



(I)

wherein X is C₁-C₄ alkylthio, and Y is C₁-C₂ alkyl, or a pharmaceutically acceptable salt thereof;

~~a compound of formula (IA):~~

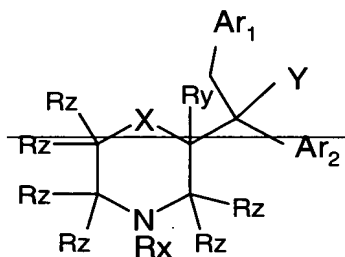


(IA)

wherein n is 1, 2 or 3; R₁ is C₂-C₁₀alkyl, C₂-C₁₀alkenyl, C₃-C₈cycloalkyl or C₄-C₁₀cycloalkylalkyl, ~~wherein one C-C bond within any cycloalkyl moiety is optionally substituted by an O-C or C=C bond and wherein each group is optionally substituted with from 1 to 7 halogen substituents and/or with from 1 to 3 substituents each independently~~

selected from hydroxy, cyano, C₁-C₄alkyl and C₁-C₄alkoxy; R₂ is H, C₁-C₄alkyl (optionally substituted with from 1 to 7 halogen atoms), C₁-C₄alkyl-S(O)_x—wherein x is 0, 1 or 2 (optionally substituted with from 1 to 7 halogen atoms), C₁-C₄alkoxy (optionally substituted with from 1 to 7 halogen atoms), cyano, halogen, phenyl (optionally substituted with from 1 to 3 substituents each independently selected from halogen, C₁-C₄alkyl and C₁-C₄alkoxy), phenoxy (optionally substituted with from 1 to 3 substituents each independently selected from halogen, C₁-C₄alkyl and C₁-C₄alkoxy) or —CO₂(C₁-C₄alkyl), or together with R₃ forms a further benzene ring (optionally substituted with from 1 to 3 substituents each independently selected from halogen, C₁-C₄alkyl and C₁-C₄alkoxy); R₃ is H, C₁-C₄alkyl (optionally substituted with from 1 to 7 halogen atoms), C₁-C₄alkyl-S(O)_x—wherein x is 0, 1 or 2 (optionally substituted with from 1 to 7 halogen atoms), C₁-C₄alkoxy (optionally substituted with from 1 to 7 halogen atoms), cyano, halogen, phenyl (optionally substituted with from 1 to 3 substituents each independently selected from halogen, C₁-C₄alkyl and C₁-C₄alkoxy), phenoxy (optionally substituted with from 1 to 3 substituents each independently selected from halogen, C₁-C₄alkyl and C₁-C₄alkoxy) or —CO₂(C₁-C₄alkyl), or together with R₂ or R₄ forms a further benzene ring (optionally substituted with from 1 to 3 substituents each independently selected from halogen, C₁-C₄alkyl and C₁-C₄alkoxy); R₄ is H, C₁-C₄alkyl (optionally substituted with from 1 to 7 halogen atoms), C₁-C₄alkyl-S(O)_x—wherein x is 0, 1 or 2 (optionally substituted with from 1 to 7 halogen atoms), C₁-C₄alkoxy (optionally substituted with from 1 to 7 halogen atoms), cyano, halogen, phenyl (optionally substituted with from 1 to 3 substituents each independently selected from halogen, C₁-C₄alkyl and C₁-C₄alkoxy), phenoxy (optionally substituted with from 1 to 3 substituents each independently selected from halogen, C₁-C₄alkyl and C₁-C₄alkoxy) or —CO₂(C₁-C₄alkyl), or together with R₃ forms a further benzene ring (optionally substituted with from 1 to 3 substituents each independently selected from halogen, C₁-C₄alkyl and C₁-C₄alkoxy); R₅ is H, C₁-C₄alkyl (optionally substituted with from 1 to 7 halogen atoms), C₁-C₄alkoxy (optionally substituted with from 1 to 7 halogen atoms) or halogen; R₆ is H, C₁-C₄alkyl (optionally substituted with from 1 to 7 halogen atoms), C₁-C₄alkoxy (optionally substituted with from 1 to 7 halogen atoms) or halogen; R₇ is H or C₁-C₄alkyl; R₈ is H or C₁-C₄alkyl; R₉ is H, halogen, hydroxy, cyano, C₁-C₄alkyl or C₁-C₄alkoxy; and R₁₀ is H, halogen, hydroxy, cyano, C₁-C₄alkyl or C₁-C₄alkoxy; or a pharmaceutically acceptable salt thereof, with the proviso that the compound N-ethyl N-benzyl 4-piperidinamine is excluded;

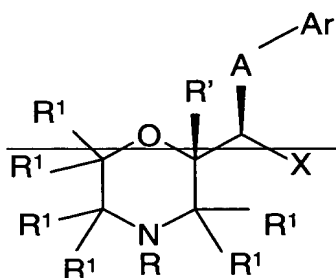
a compound of formula (IB):



(IB)

wherein R_X is H; R_Y is H or C_1 - C_4 alkyl; each R_Z is independently H or C_1 - C_4 alkyl; X represents O; Y represents OH or OR; R is C_1 - C_4 alkyl; Ar_1 is a phenyl ring or a 5- or 6-membered heteroaryl ring each of which may be substituted with 1, 2, 3, 4 or 5 substituents (depending upon the number of available substitution positions) each independently selected from C_1 - C_4 alkyl, $O(C_1$ - C_4 alkyl), $S(C_1$ - C_4 alkyl), halo, hydroxy, pyridyl, thiophenyl and phenyl optionally substituted with 1, 2, 3, 4 or 5 substituents each independently selected from halo, C_1 - C_4 alkyl, or $O(C_1$ - C_4 alkyl); and Ar_2 is a phenyl ring or a 5- or 6-membered heteroaryl ring each of which may be substituted with 1, 2, 3, 4 or 5 substituents (depending upon the number of available substitution positions) each independently selected from C_1 - C_4 alkyl, $O(C_1$ - C_4 alkyl) and halo; wherein each above mentioned C_1 - C_4 alkyl group is optionally substituted with one or more halo atoms; or a pharmaceutically acceptable salt thereof;

a compound of formula (IC)

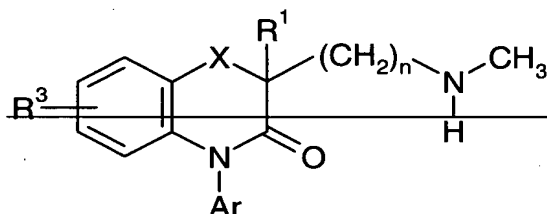


(IC)

wherein: A is S or O; R is H; Ar is a phenyl group optionally substituted with 1, 2, 3, 4 or 5 substituents each independently selected from C_1 - C_4 alkyl, $O(C_1$ - C_4 alkyl), $S(C_1$ - C_4 alkyl), halo, hydroxy, $CO_2(C_1$ - C_4 alkyl), pyridyl, thiophenyl and phenyl optionally substituted with 1, 2, 3, 4 or 5 substituents each independently selected from halo, C_1 - C_4 alkyl, or $O(C_1$ - C_4 alkyl); X is a phenyl group optionally substituted with 1, 2, 3, 4 or 5 substituents each independently selected from halo, C_1 - C_4 alkyl, or $O(C_1$ - C_4 alkyl); a C_1 - C_4 alkyl group; a C_3 - C_6 cycloalkyl group or a $CH_2(C_3$ - C_6 cycloalkyl) group; R^1 is H or C_1 - C_4

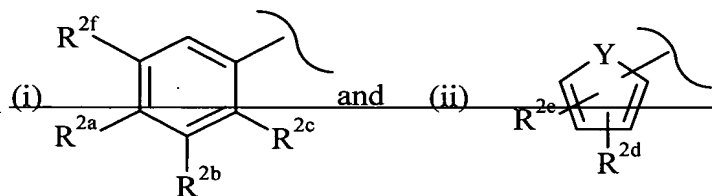
alkyl; each R^1 is independently H or C_1 - C_4 alkyl; wherein each above mentioned C_1 - C_4 alkyl group is optionally substituted with one or more halo atoms; or a pharmaceutically acceptable salt thereof; with the proviso that, when A is O, X is a C_1 - C_4 alkyl group, a C_3 - C_6 cycloalkyl group or a CH_2 (C_3 - C_6 cycloalkyl) group;

a compound of formula (ID)



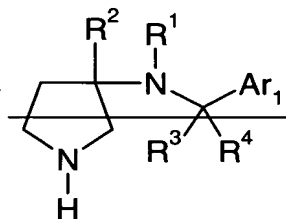
(ID)

wherein X is $C(R^4R^5)$, O or S; n is 2 or 3; R^1 is H or C_1 - C_4 alkyl; R^3 is H, halo, C_1 - C_4 alkyl, $O(C_1$ - C_4 alkyl), nitrile, phenyl or substituted phenyl; R^4 and R^5 are each independently selected from H or C_1 - C_4 alkyl; Ar is selected from the group consisting of



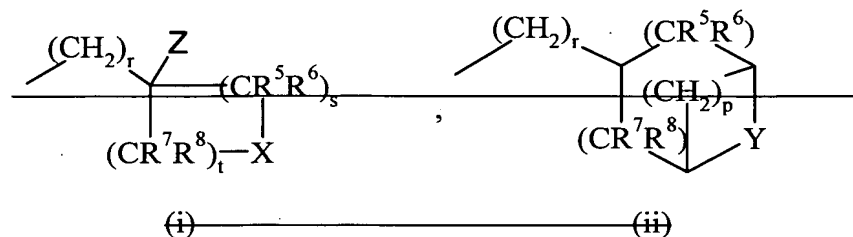
in which R^{2a} is H, halo, methyl or ethyl; R^{2b} is H, halo or methyl; R^{2c} is H, halo, methyl, trifluoromethyl, nitrile, or methoxy; R^{2d} is H, halo, methyl or ethyl; R^{2e} is H, halo, methyl, trifluoromethyl, nitrile, or methoxy; R^{2f} is H, or fluoro; Y is O, S or $N(R^6)$; and R^6 is H or methyl or a pharmaceutically acceptable salt thereof;

a compound of formula (IE)



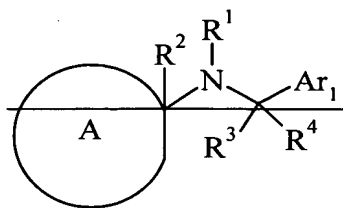
(IE)

wherein R^1 is C_1 - C_6 alkyl (optionally substituted with 1, 2 or 3 halo substituents and/or with 1 substituent selected from S (C_1 - C_3 alkyl), O (C_1 - C_3 alkyl) (optionally substituted with 1, 2 or 3 F atoms), O (C_3 - C_6 cycloalkyl), SO_2 (C_1 - C_3 alkyl), CN, COO (C_1 - C_2 alkyl) and ΘH); C_2 - C_6 alkenyl; $(CH_2)_q$ - Ar_2 ; or a group of formula (i) or (ii)



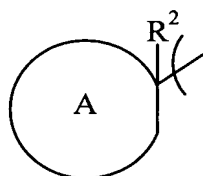
R^2 , R^3 and R^4 are each independently selected from hydrogen or C_1 - C_2 alkyl; R^5 , R^6 , R^7 and R^8 are at each occurrence independently selected from hydrogen or C_1 - C_2 alkyl; X is a bond, CH_2 , $CH=CH$, O , S , or SO_2 ; Y is a bond, CH_2 or O ; Z is hydrogen, OH or O (C_1 - C_3 alkyl); p is 0, 1 or 2; q is 0, 1 or 2; r is 0 or 1; s is 0, 1, 2 or 3; t is 0, 1, 2 or 3; Ar_1 is phenyl, pyridyl, thiazolyl, benzothiophenyl or naphthyl; wherein said phenyl, pyridyl or thiazolyl group may be substituted with 1, 2 or 3 substituents each independently selected from halo, cyano, C_1 - C_4 alkyl (optionally substituted with 1, 2 or 3 F atoms), O (C_1 - C_4 alkyl) (optionally substituted with 1, 2 or 3 F atoms) and S (C_1 - C_4 alkyl) (optionally substituted with 1, 2 or 3 F atoms) and/or with 1 substituent selected from pyridyl, pyrazole, phenyl (optionally substituted with 1, 2 or 3 halo substituents) and phenoxy (optionally substituted with 1, 2 or 3 halo substituents); and wherein said benzothiophenyl or naphthyl group may be optionally substituted with 1, 2 or 3 substituents each independently selected from halo, cyano, C_1 - C_4 alkyl (optionally substituted with 1, 2 or 3 F atoms), O (C_1 - C_4 alkyl) (optionally substituted with 1, 2 or 3 F atoms), and S (C_1 - C_4 alkyl) (optionally substituted with 1, 2 or 3 F atoms); Ar_2 is naphthyl, pyridyl, thiazolyl, furyl, thiophenyl, benzothiophenyl, or phenyl, wherein said naphthyl, pyridyl, thiazolyl, furyl, thiophenyl, benzothiophenyl, or phenyl may be substituted with 1, 2 or 3 substituents each independently selected from halo, C_1 - C_4 alkyl (optionally substituted with 1, 2 or 3 F atoms) and O (C_1 - C_4 alkyl) (optionally substituted with 1, 2 or 3 F atoms); or a pharmaceutically acceptable salt thereof; provided that (a) the cyclic portion of the group of formula (i) must contain at least three carbon atoms and not more than seven ring atoms; (b) when X is $CH=CH$, then the cyclic portion of the group of formula (i) must contain at least five carbon atoms; and (c) when Z is OH or O (C_1 - C_3 alkyl), then X is CH_2 ; (d) when Y is O then p cannot be 0; and (e) the compound 3-[(phenylmethyl)-(3S)-3-pyrrolidinylamino]propanenitrile is excluded;

a compound of formula (IF)

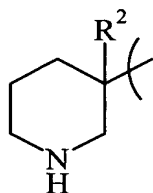


(IF)

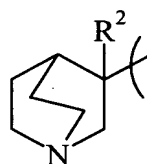
wherein



is a group of formula (a) or (b)



or

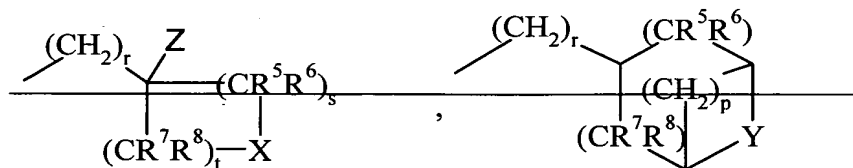


;

(a)

(b)

R^1 is C_1 - C_6 alkyl (optionally substituted with 1, 2 or 3 halo substituents and/or with 1 substituent selected from $-S$ (C_1 - C_3 alkyl), $-O$ (C_1 - C_3 alkyl) (optionally substituted with 1, 2 or 3 F atoms), $-O$ (C_3 - C_6 cycloalkyl), $-SO_2$ (C_1 - C_3 alkyl), $-CN$, $-COO$ (C_1 - C_2 alkyl) and $-OH$); C_2 - C_6 alkenyl; $(CH_2)_q-Ar_2$; or a group of formula (i) or (ii)



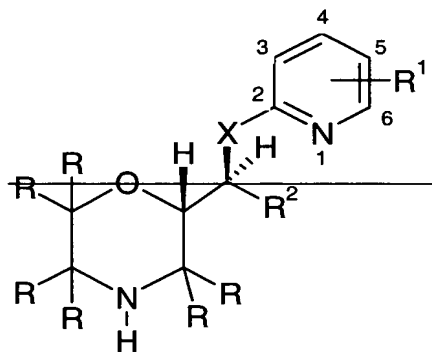
(i)

(ii)

R^2 , R^3 and R^4 are each independently selected from hydrogen or C_1 - C_2 alkyl; R^5 , R^6 , R^7 and R^8 are at each occurrence independently selected from hydrogen or C_1 - C_2 alkyl; X is a bond, $-CH_2$, $-CH=CH$, $-O$, $-S$, or $-SO_2$; Y is a bond, $-CH_2$ or $-O$; Z is hydrogen, $-OH$ or $-O$ (C_1 - C_3 alkyl); p is 0, 1 or 2; q is 0, 1 or 2; r is 0 or 1; s is 0, 1, 2 or 3; t is 0, 1, 2 or 3; Ar_1 is phenyl, pyridyl, thiazolyl, benzothiophenyl or naphthyl; wherein said phenyl, pyridyl or thiazolyl group may be substituted with 1, 2 or 3 substituents each independently selected from halo, cyano, C_1 - C_4 alkyl (optionally substituted with 1, 2 or 3 F atoms), $-O$ (C_1 - C_4 alkyl) (optionally substituted with 1, 2 or 3 F atoms) and $-S$ (C_1 - C_4 alkyl) (optionally substituted

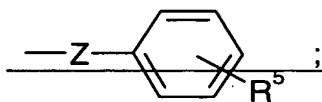
with 1, 2 or 3 F atoms) and/or with 1 substituent selected from pyridyl, pyrazole, phenyl (optionally substituted with 1, 2 or 3 halo substituents), benzyl and phenoxy (optionally substituted with 1, 2 or 3 halo substituents); and wherein said benzothiophenyl or naphthyl group may be optionally substituted with 1, 2 or 3 substituents each independently selected from halo, cyano, C₁-C₄ alkyl (optionally substituted with 1, 2 or 3 F atoms), O (C₁-C₄ alkyl) (optionally substituted with 1, 2 or 3 F atoms), and S (C₁-C₄ alkyl) (optionally substituted with 1, 2 or 3 F atoms); Ar₂ is naphthyl, pyridyl, thiazolyl, furyl, thiophenyl, benzothiophenyl, or phenyl, wherein said naphthyl, pyridyl, thiazolyl, furyl, thiophenyl, benzothiophenyl, or phenyl may be substituted with 1, 2 or 3 substituents each independently selected from halo, C₁-C₄ alkyl (optionally substituted with 1, 2 or 3 F atoms) and O (C₁-C₄ alkyl) (optionally substituted with 1, 2 or 3 F atoms); or a pharmaceutically acceptable salt thereof; provided that (a) the cyclic portion of the group of formula (i) must contain at least three carbon atoms and not more than seven ring atoms; (b) when X is CH=CH, then the cyclic portion of the group of formula (i) must contain at least five carbon atoms; and (c) when Z is OH or O (C₁-C₃ alkyl), then X is CH₂; and (d) when Y is O then p cannot be 0; and

a compound of formula (IG)



(IG)

wherein X is S or O; each R is independently selected from H or C₁-C₄ alkyl; R¹ is H, C₁-C₄ alkyl, C₁-C₄ alkoxy, halo, cyano, trifluoromethyl, trifluoromethoxy, NR³R⁴, CONR³R⁴, COOR³ or a group of the formula (i)



(i)

R² is C₁-C₄ alkyl, phenyl or phenyl substituted with 1, 2 or 3 substituents each independently selected from C₁-C₄ alkyl, C₁-C₄ alkoxy, nitro, hydroxy, cyano, halo, trifluoromethyl,

~~trifluoromethoxy, benzyl, benzyloxy, NR^6R^7 , CONR^6R^7 , COOR^6 , $\text{SO}_2\text{NR}^6\text{R}^7$ and SO_2R^6 ;~~
 ~~R^5 is selected from $\text{C}_1\text{-C}_4$ alkyl, $\text{C}_1\text{-C}_4$ alkoxy, carboxy, nitro, hydroxy, cyano, halo,~~
~~trifluoromethyl, trifluoromethoxy, benzyl, benzyloxy, NR^8R^9 , CONR^8R^9 , $\text{SO}_2\text{NR}^8\text{R}^9$ and~~
 ~~SO_2R^8 ; R^3 , R^4 , R^6 , R^7 , R^8 and R^9 are each independently selected from H or $\text{C}_1\text{-C}_4$ alkyl; and~~
~~Z is a bond, CH_2 , or O;~~
~~_____ or a pharmaceutically acceptable salt thereof.~~

2. (cancelled)

3. (currently amended) The method of claim 1 ~~or the use of claim 2~~, wherein said norepinephrine reuptake inhibitor is atomoxetine hydrochloride.